

Remarks/Arguments

Claims 1-19 are pending in the Application.

Claims 1-19 are rejected.

Claims 5 and 9-11 are amended herein.

I. INFORMATION DISCLOSURE STATEMENT

Applicant recognizes the number of references included in the Information Disclosure Statements relating to the present Application to be quite large. However, Applicant is merely complying with their duty of disclosure, as defined in 37 C.F.R. § 1.56. Applicant appreciates the Examiner's "reasonable" consideration of the art contained therein.

II. REJECTIONS UNDER 35 U.S.C. § 112, ¶2

The Examiner has rejected Claims 5 and 9-11 under 35 U.S.C. § 112, ¶2, as "being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." Office Action, at 2-3.

Regarding Claims 5, 9 and 10, Applicant has amended these Claims so as to properly employ the Markush language. *See* Listing of the Claims.

Regarding Claim 11, Applicant has amended this Claim to remove the Markush language altogether (since there was only one type of initiator in the group). *See* Listing of the Claims.

As a result of the forgoing, Applicant respectfully requests that the Examiner withdraw the rejection of Claims 5 and 9-11 under 35 U.S.C. § 112, ¶2.

III. REJECTIONS UNDER 35 U.S.C. §§ 102(b) AND 103(a)

The Examiner has rejected Claims 1-5, 7 and 9-19 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, 35 U.S.C. § 103(a) as being unpatentable over Pachl et al., United States Patent No. 6,174,932 ("Pachl") or Wojnarowicz, United States Patent No. 5,149,592 ("Wojnarowicz"). Additionally, the Examiner has rejected Claims 1-19 under 35 U.S.C. § 102(b) as anticipated by, or in the alternative, 35 U.S.C. § 103(a) as being unpatentable over Chaouk et al., United States Patent Nos. 6,060,530 ("Chaouk I"), 6,015,609 ("Chaouk II"), 6,160,030 ("Chaouk III"), or 6,225,367 ("Chaouk IV"). Applicant respectfully traverses these rejections.

The Examiner states that "[e]ach of Pachl et al. (claim 15), Wojnarowicz (col. 1, line 43 to col. 2, line 33) and Chaouk et al. [(col. 8, lines 55-59, col. 10, lines 1-4 and col. 13, lines 26-29 in '530), (col. 9, lines 10-14, col. 10, lines 54-55 and col. 14, lines 34-37 in '609), (col. 10, lines 60-64 and col. 13, lines 21-22 in '030) and (col. 13, lines 10-13, col. 17, lines 2-33 and the examples in '367)] teach a curable composition comprising an acrylate monomer, a fluorinated surfactant and a photoinitiator. *See* Office Action, at 4.

The Examiner contends that "[w]hile the prior art may not expressly teach the disclosed properties of the claimed composition and the resulting cured product, it is reasonable that the compositions of the prior art would possess the presently claimed properties since the composition are essentially the same as the claimed composition." The Examiner further contends that "[e]ven if assuming that the prior art references do not meet the requirements of 35 U.S.C. 102, it would still have been obvious to one of ordinary skill in the art, at the time the invention was made, to arrive at the same inventive composition because the disclosure of the inventive subject matter appears within the generic disclosure of the prior art." *See* Office Action, at 4.

The Examiner is reminded that:

Anticipation requires each and every element of the claim to be found within the cited prior art reference. *See W.L. Gore & Assocs. v. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983). To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *See M.P.E.P. 706.02(j); see also In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Claim 1 is directed to an imprinting material for use in imprint lithography comprising: a composition having a viscosity associated therewith and including a surfactant, a polymerizable component, and an initiator responsive to a stimuli to vary said viscosity in response thereto, with said composition, in a liquid state, having said viscosity being lower than about 100 centipoises, a vapor pressure of less than about 20 Torr, and in a solid cured state a tensile modulus of greater than about 100 MPa, a break stress of greater than about 3 MPa and an elongation at break of greater than about 2%.

Applicant respectfully points out that none of *Pachl*, *Wojnarowicz* or *Chaouk I-IV* teach a composition having the combination of very low viscosity and vapor pressure in the uncured state and high tensile modulus, break stress and elongation to break in the cured state. Applicant notes that the Examiner's suggestion that such a combination of properties may result from one or more of *Pachl*, *Wojnarowicz* or *Chaouk I-IV*, is insufficient in establishing a *prima facie* case of anticipation. *See In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (C.C.P.A 1981). Applicant further notes that the burden of presenting a *prima facie* case of anticipation resides with the Examiner. *See In re Skinner*, 2 USPQ 2d 1788, 1788-1789 (B.P.A.I. 1986).

Accordingly, Claim 1 is not anticipated by any of *Pachl*, *Wojnarowicz* or *Chaouk I-IV*. As Claims 2-19 depend directly or indirectly from Claim 1, neither are they anticipated by any of *Pachl*, *Wojnarowicz* or *Chaouk I-IV*.

Regarding the Examiner's rejection of Claims 1-19 under 35 U.S.C. § 103(a), Applicant asserts that a *prima facie* case of obviousness has not been established. In establishing this lack of obviousness, the discussion that follows may have bearing on the alleged anticipation described above.

The combination of properties required by all of Claims 1-19 is unique and optimized for imprint lithography (*see above*). The novelty of such compounds is identified in Xu et al., "Development of Imprint Materials for the Step and Flash Imprint Lithography Process," Proc. SPIE, vol. 5374, no. 1, pp. 234-241, Microlithography Conf., Feb. 2004 ("Xu"), particularly section 3.2—attached hereto as Exhibit A.

None of *Pachl*, *Wojnarowicz* or *Chaouk I-IV* teach or suggest that their compositions be used for imprint lithography. That *Wojnarowicz* prefers a viscosity of about 10,500 centipoises (*Wojnarowicz*, col. 3, ll. 49) and *Pachl* prefers a viscosity of between about 20,000 and 80,000 centipoises (*Pachl*, col. 3, ll. 15-16) actually teaches away from their use in imprint lithography. Indeed, such viscosity levels would be incompatible with the imprint lithography the present Application provides for through its novel compositions. *Chaouk I-IV* are silent on viscosity, but are generally directed to porous materials for ophthalmic devices (*e.g.*, contact lenses). The presence of such pores in the compositions of *Chaouk I-IV*, however, would generally preclude their use as an imprint material since the pore size is typically larger than the sub-100 nm structures printable with the compositions of the present invention. *See, e.g.*, *Chaouk III*, col. 14, ll. 28-30 vs. *Xu*, figs. 7 & 8. Moreover, even if their were a suggestion to modify any of *Pachl*, *Wojnarowicz* or *Chaouk I-IV*, either alone or in combination, for use in imprint lithography (note that no such suggestion exists), the level of experimentation required to do so would most certainly be "undue." *See Xu*, Abstract. Accordingly, Claims 1-19 are not obvious in view of any of *Pachl*, *Wojnarowicz* or *Chaouk I-IV*.

As a result of the foregoing, Applicant respectfully requests that the Examiner withdraw the rejection of Claims 1-5, 7 and 9-19 under 35 U.S.C. § 102(b) as anticipated by, or in the alternative, 35 U.S.C. § 103(a) as being unpatentable over *Pachl* or *Wojnarowicz*; and the rejection of Claims 1-19 under 35 U.S.C. § 102(b) as anticipated by, or in the alternative, 35 U.S.C. § 103(a) as being unpatentable over *Chaouk I-IV*.

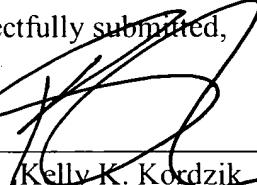
IV. CONCLUSION

As a result of the foregoing, it is asserted by Applicant that the Claims in the Application are now in a condition for allowance, and respectfully request an allowance of such Claims.

Applicants respectfully request that the Examiner call Applicants' attorney/agent at the below listed number if the Examiner believes that such a discussion would be helpful in resolving any remaining problems.

Respectfully submitted,

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